

REMARKS

Prior to entry of this amendment, claims 1-12 are pending in the subject application. By the instant amendment, claims 13-20 have been added.

Applicants appreciate the Examiner's acknowledgement of applicants claim for foreign priority and receipt of a certified copy of the priority document.

Applicants request, in the next Office action, that the Examiner indicate the acceptability of the drawings filed on January 26, 2004.

Applicants further appreciate the Examiner's consideration of applicants' Information Disclosure Statements filed January 26, 2004, February 28, 2005, and April 20, 2005.

Claims 1-20 are presented for further or initial consideration on the merits. Claims 1, 7 and 13 are independent.

A. Introduction

In the outstanding Office action, the Examiner rejected claims 1-2 and 7-8 under 35 U.S.C. § 103(a) as being unpatentable over Japan Patent Abstract No. 2001-138272 to Jinichi et al. ("the Jinichi et al. reference") in view of U.S. Patent Application No. 2003/0009259 ("the Hattori et al. reference"); rejected claims 1-4, 6-10 and 12 under 35 U.S.C. § 103(a) as being unpatentable over the Jinichi et al. reference in view of U.S. Patent No. 6,553,271 to Morrell ("the Morrell reference"); and objected to claims 5 and 11 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The rejections are respectfully traversed for at least the reasons set forth below.

B. Asserted Obviousness Rejection of Claims 1-2 and 7-8

In the outstanding Office action, the Examiner rejected claims 1-2 and 7-8 under 35 U.S.C. § 103(a) as being unpatentable over the Jinichi et al. reference in view of the Hattori et al. reference. Applicants respectfully traverse this rejection, and respectfully submit that the Examiner failed to set forth a *prima facie* case of obviousness for at least the reasons set forth below.

Independent claim 1 recites, *inter alia*, "slope-detection means for sensing a slope of a floor." Independent claim 7 recites, *inter alia*, "sensing a slope of a floor." The Examiner unequivocally admits, at page 3, lines 8-10, of the Office action, that the Jinichi et al. reference fails to disclose detecting a slope of a floor. Applicants agree, and further submit that detecting a slope is not disclosed or suggested by the Hattori et al. reference either.

In the outstanding Office action, the Examiner asserted that the Hattori et al. reference teaches, "control of a bipedal robot that includes slope-detection means for sensing a slope of a floor ([0043]) and control the speed of the robot motion based on the detected slope of the

floor ([0047]).” (See Office action mailed January 17, 2007, page 3 (emphasis added)). Applicants respectfully submit that the Hattori et al. reference fails to teach or disclose detecting a floor-slope recited in claims 1 and 7.

The Examiner relies upon the Hattori et al. reference to supply a slope-detection means for sensing a slope of a floor as disclosed and claimed in claim 1 of the present application. The Hattori et al. reference, however, is directed to a robot having a road surface contact sensor and a relative movement sensor for measuring the relative movement between the foot part and the road surface (see paragraphs [0037]-[0039] and Abstract). The Hattori et al. reference explains, at paragraph [0110],

that the road surface contact sensors 361 are used for detecting the time point of moving away from and reaching the road surface of the respective foot soles. The operating time period of the robot 100 (that is the time period when the robot is supported on both legs or on a sole leg) can be determined based on the outputs of the road surface contact sensors 361. On the other hand, the relative movement measurement sensors 362 are provided for detecting and measuring the amount of relative movement (*amount of slip*) of the respective legs relative to the road surface. (emphasis added)

The Hattori et al. reference repeatedly explains that relative movement between a leg and a road surface is slippage. Therefore, the Hattori et al. reference does not include detect a slope as recited in claims 1 and 7, but only observes and measures relative movement, e.g., slip, between the robot and the floor surface.

For at least these reasons, applicants respectfully submit that the Jinichi et al. reference and the Hattori et al. reference, either singly or in combination, fail to disclose or render obvious the invention as claimed in independent claim 1. Accordingly, applicants respectfully request that the rejection of claims 1 and 7 under 35 U.S.C. § 103(a) be favorably reconsidered and withdrawn.

Since claims 2 and 8 are patentable at least by virtue of its ultimate dependency on claims 1 and 7, respectively, applicants respectfully request that the rejection of claims 2 and 8 under 35 U.S.C. § 103(a) be favorably reconsidered and withdrawn.

C. Asserted Obviousness Rejection of Claims 1-4, 6-10 and 12

In the outstanding Office action, the Examiner rejected claims 1-4, 6-10 and 12 under 35 U.S.C. § 103(a) as being unpatentable over the Jinichi et al. reference in view of the Morrell reference. Applicants respectfully traverse this rejection and respectfully submit that the Examiner failed to set forth a *prima facie* case of obviousness for at least the reasons set forth below.

Independent claim 1 recites, *inter alia*, “slope-detection means for sensing a slope of a floor.” Independent claim 7 recites, *inter alia*, “sensing a slope of a floor.” The Examiner unequivocally admits, at page 4, lines 12-14, of the Office action, that the Jinichi et al. reference fails to disclose detecting a slope of a floor. Applicants agree, and further submit that detecting a slope is not disclosed or suggested by the Morrell reference either.

The passage relied upon by the Examiner includes an explanation about the operation of the system if a wheel of a cluster starts to lift off the ground, which reads, “the cluster velocity monitoring control sub-loop will create a signal that causes the wheels to accelerate to keep the center of gravity over the footprint.” (See Col. 28, line 66-Col. 29, line 1 of the Morrell reference). Applicants respectfully submit that the Morrell reference teaches that the system is to keep the wheels on the ground at all times, and the center of gravity over of wheels. Thus, the control loop in the Morrell reference does not detect a slope of the ground, as recited in claims 1 and 7, but detects if a wheel begins to leave the ground.

Further, the control loop in the Morrell reference is not used to control lower and upper body parts, as further recited in claims 1 and 7, but to maintain the wheels in contact with the ground and the center of gravity over the wheels.

Finally, since the Morrell reference discloses a system that does not lift legs, as does the ambulatory robot in the Jinichi et al. reference, but keeps its wheels on the ground at all times, there is no motivation to combine or indication as to how to combine the Morrell reference and the Jinichi et al. reference.

For at least these reasons, applicants respectfully submit that the Jinichi et al. reference and the Morrell reference, either singly or in combination, fail to disclose or render obvious the invention as claimed in independent claims 1 or 7. Accordingly, applicants respectfully request that the rejection of claims 1 and 7 under 35 U.S.C. § 103(a) be favorably reconsidered and withdrawn.

Since claims 2-4 and 6, and claims 8-10 and 12, are patentable at least by virtue of their ultimate dependency on claims 1 and 7, respectively, applicants respectfully request that the rejection of claims 2-4 and 6 under 35 U.S.C. § 103(a) be favorably reconsidered and withdrawn.

D. Allowable Subject Matter

Applicants appreciate the Examiner’s indication of allowable subject matter in claims 5 and 11. However, it is respectfully submitted that all of the pending claims are in condition for allowance for at least the reasons set forth above.

E. New Claims

Claims 13-18 have been added to recite the robot without means-plus-function limitations of corresponding claims 1-6. Dependent claims 19 and 20 have been added to recite details of the slope detector set forth, for example, in paragraph [0047] of the original specification. These claims are believed to be allowable for at least the reasons discussed above.

F. Conclusion

The remaining documents cited by the Examiner were not relied upon to reject the claims. Therefore, no comments concerning these documents are considered necessary at this time.

If the Examiner believes that additional discussions or information might advance the prosecution of the instant application, the Examiner is invited to contact the undersigned at the telephone number listed below to expedite resolution of any outstanding issues.

In view of the foregoing remarks, reconsideration of this application is earnestly solicited, and an early and favorable further action upon all the claims is hereby requested.

Respectfully submitted,
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Date: April 6, 2007


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PETITION and
DEPOSIT ACCOUNT CHARGE AUTHORIZATION

This document and any concurrently filed papers are believed to be timely. Should any extension of the term be required, applicant hereby petitions the Director for such extension and requests that any applicable petition fee be charged to Deposit Account No. 50-1645.

If fee payment is enclosed, this amount is believed to be correct. However, the Director is hereby authorized to charge any deficiency or credit any overpayment to Deposit Account No. 50-1645.

Any additional fee(s) necessary to effect the proper and timely filing of the accompanying-papers may also be charged to Deposit Account No. 50-1645.